

Abstract of the Disclosure

An apparatus, system and method of evaluating performance of a photovoltaic array that includes a plurality of photovoltaic elements. The function of each of the photovoltaic elements is to convert solar energy to electricity. The method includes diagnosing independently the functioning of individual photovoltaic elements, and identifying under-performing individual photovoltaic elements within the photovoltaic array. The diagnosing includes a separate diagnostic circuit for each of the individual photovoltaic elements, and the identifying includes analyzing contemporary and historical measurements of the individual photovoltaic elements.